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I, CASSANDRA RICHARDS, ACTING TEAM LEADER EXAMINATION SUPPORT & SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. PQ 2615 for a patent by SNAP PAK INDUSTRIES (AUST) PTY LIMITED filed on 02 September 1999.



WITNESS my hand this
Eighteenth day of October 2000

CASSANDRA RICHARDS
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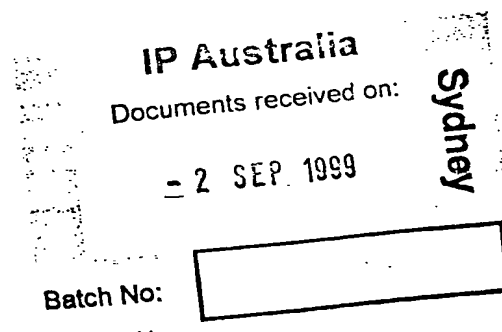
Patents Act 1990

PROVISIONAL SPECIFICATION FOR THE INVENTION ENTITLED:

A SACHET

This invention is described in the following statement:-

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The present invention relates to a sachet for the packaging and dispensing of measured quantities of liquids, powders, pastes and other flowable substances. The invention has wide application to the food,
5 pharmaceutical and cosmetics industries, although it is to be understood that the invention is not to be limited thereto.

In recent years, sachets have become an increasingly used and popular means of temporarily storing flowable materials, particularly in the food industry, where such condiments as tomato sauce are able to be quickly and
10 effectively released from the sachet for administration to other foods. The recognition that sachets may be useful for storing and dispensing cosmetic or pharmaceutical materials has occurred more recently and the sachets that have been developed for these purposes, in particular, suffer from a number of deficiencies due to the usually aggressive nature of the materials stored
15 therein.

For example, Australian Patent Application No. 65,366/96 discloses a sachet for the storage and application of liquid/paste substances that is formed by the sandwiching together of a plurality of plastics layers. A reservoir for containing the stored substance is formed between two of the plastics layers
20 which comprise flexible films by heat bonding their juxtaposed peripheral regions. A third semi-rigid plastics layer is tack bonded with a heat activated glue to the peripheral region of one of the films defining the reservoir. An aperture is preformed in the film immediately adjacent the semi-rigid plastics layer so that the substance in the reservoir is prevented from release through
25 the aperture by the physical obstruction provided by the semi-rigid plastics layer. A score line is preformed across the semi-rigid plastics layer so as to be located proximate to the aperture and to enable, by fracturing along the score line, the substance to be squeezed from the reservoir through the aperture for application as desired.

However, it has been found that the sachet of Australian Patent Application No. 65,366/96 is prone to leakage of the stored substance through the aperture when subject to long term distortion, handling and other manipulation pressures, the substance leaking into the narrow space created by such pressures between the semi-rigid plastics layer and the film through which the aperture is formed and spreading to the peripheral regions where it undermines the strength of the bonding glue. Eventually, the normally aggressive nature of the substance for the glue will weaken the bond sufficiently for the substance to escape from the sachet. This poses a particular problem when storing substances having volatile properties.

Therefore, the sachet of Australian Patent Application No. 65,366/96 does not provide an effective and reliable seal between the plastics layers because the glue or other means used to bond the semi-rigid plastics layer to the film through which the aperture is formed is, after a certain degree of manipulation pressure has been applied to the sachet, exposed to the aggressive or chemically reactive stored substance causing delamination of the adjoining plastics layers.

It is an object of the present invention to overcome, or at least substantially ameliorate, the disadvantages and shortcomings of the prior art.

According to the invention there is provided a sachet for the packaging and dispensing of a flowable substance, comprising a semi-rigid member having formed thereon a weakened region so that upon bending across said weakened region said semi-rigid member will fracture along said weakened region, a reservoir means formed by overlaid first and second flexible film layers and adapted to contain said flowable substance, said second flexible film layer being affixed upon said semi-rigid member and including an aperture therethrough at a location proximate to said weakened region, the region of the said second flexible film layer immediately surrounding said aperture being sealed to the adjacent region of the said semi-rigid member so as to prevent leakage of said flowable substance from within the said reservoir means,

whereby fracturing along said weakened region will expose the said aperture so as to allow the said flowable substance to be dispensed.

Preferably, the weakened region comprises a score line across said semi-rigid member.

5 It is also preferred that the first and second flexible film layers comprise separate flexible film members affixed together at their respective peripheral regions.

In order that the invention may be readily understood and put into practical effect, reference will be made to the accompanying drawings, in
10 which:-

Fig 1 is a sectional side elevation view of a sachet according to a preferred embodiment of the present invention,

Fig 2 is a view similar to Fig 1 but of the sachet in exploded form,

Fig 3 is a sectional side elevation view of the sachet of Fig 1 when bent
15 sufficiently so as to fracture the semi-rigid member and expose the aperture for dispensing of the substance, and

Fig 4 is a top view of the sachet of Fig 1 with the first flexible film layer and flowable substance removed so as to show the aperture and the sealed region thereabout.

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The sachet 10 shown in Figs 1 to 4 has a semi-rigid member 12 and a reservoir means 14 formed by overlaid flexible film layers 16, 18.

The semi-rigid member 12 is, in this embodiment, fabricated of polystyrene, and has formed substantially midway across its elongate structure
25 a weakened region comprising a score line 20, although the weakening may alternatively be due to perforations or narrowing of the structure or the like.

The weakened region 20 is such that upon bending thereacross, the semi-rigid member 12 will fracture or snap along the weakened region 20.

The overlaid flexible film layers 16, 18 are, in this embodiment,
30 fabricated of polyester and comprise separate film members affixed together at

their respective peripheral regions 22, 24, the film member 18 being first affixed upon the semi-rigid member 12. The film member 16 is so processed that, upon affixing on the film member 18, the film member 16 forms a loose pocket that co-operates with the film member 18 to form a flexible bag defining the reservoir means 14. A flexible bag defining the reservoir means 14 may alternatively be preformed utilizing a single film member that is folded over so as to form overlaid first and second flexible film layers that are then affixed together at their respective peripheral regions before the second flexible film layer is affixed upon the semi-rigid member 12.

The reservoir means 14 contains a flowable substance 25, such as a liquid, powder or paste, in a measured quantity determined by the volume capacity of the flexible bag formed by the film layers 16, 18.

The peripheral regions 22, 24 of film layers 16, 18 respectively are affixed together by means of heat, heat activated glue or other sealing means.

Similar sealing means may be used to affix at least the peripheral regions 24 of the film layer 18 upon the semi-rigid member 12.

The film layer 18 has an aperture 26 preformed therethrough at a location which corresponds to being proximate or overlapping the score line 20 formed laterally across the semi-rigid member 12 when affixed thereto. The aperture 26 is of such dimension as to allow the flowable substance 25 to flow controllably therethrough and is preferably circular.

An annular region 28 of the film layer 18 immediately surrounding the aperture 26 is bonded, or otherwise securely sealed, say, by a suitable heat activated glue that is inert to the effects of the flowable substance 25 contained in the reservoir means 14, to the adjacent region of the semi-rigid member 12 so as to prevent leakage or migration of the flowable substance 25 from within the reservoir means 14. In this manner, the flowable substance 25 is prevented from leaking to the peripheral regions of the semi-rigid member 12 where, as in the prior art, it may undermine the bond between the semi-rigid member 12 and the film layer 18 causing delamination thereof.

The score line 20 is shown fractured in Fig 3, such as by gripping each of the opposed shorter ends 30, 32 and bending the sachet 10 as shown until the semi-rigid member 12 snaps apart. The aperture 26 is thus exposed and the flowable substance 25 may then be dispensed by squeezing the opposed shorter ends 30, 32 together with the thumb and forefinger of one hand.

The sachet of the present invention, as exemplified by reference to the preferred embodiment shown in Figs 1 to 4, therefore provides a superior, more user friendly, means of packaging and dispensing measured quantities of flowable substances, particularly those with aggressive properties, such as solvent-like or volatile substances.

Various modifications may be made in details of design concept and mode of operation without departing from the scope and ambit of the invention.

Dated this 2nd day of September, 1999

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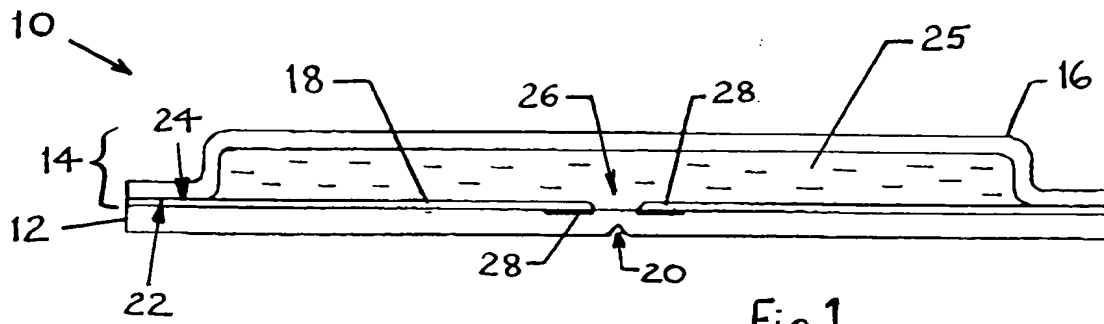


Fig. 1

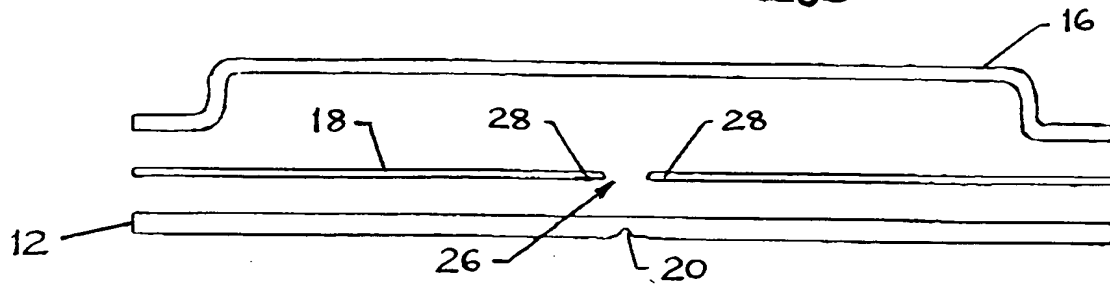


Fig. 2

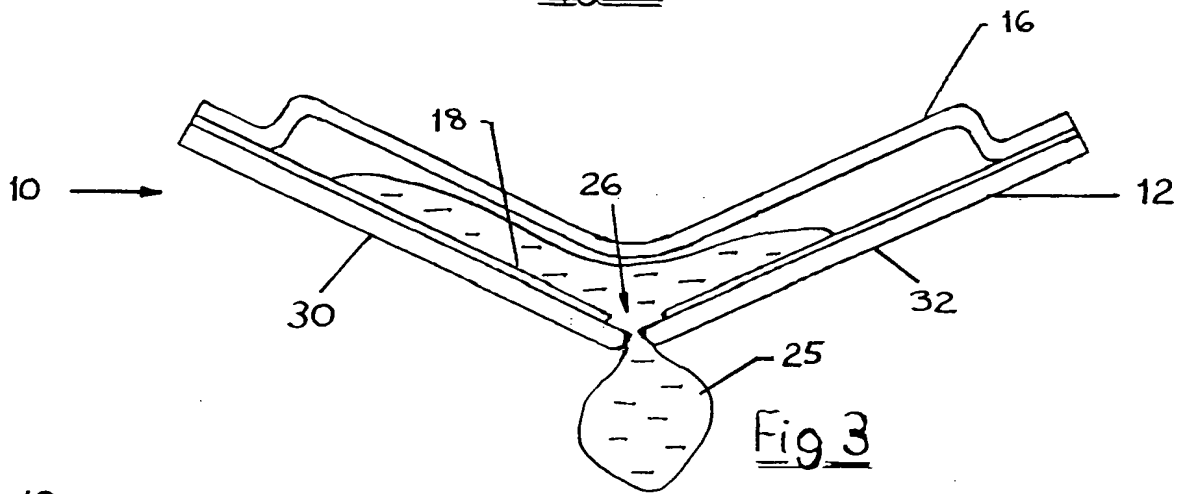


Fig. 3

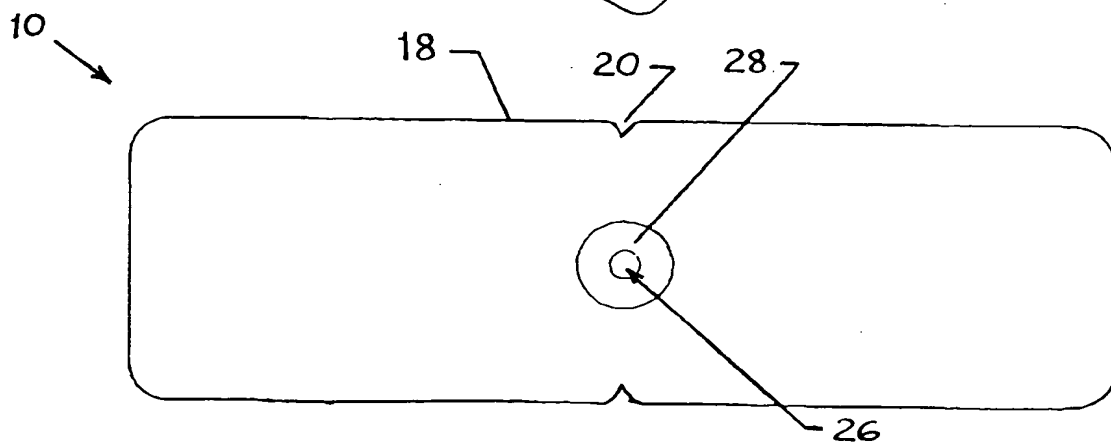


Fig. 4